



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/899,929	07/09/2001	Takaaki Murata	02887.0144-01	7152
22852	7590	09/22/2004	EXAMINER	
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 1300 I STREET, NW WASHINGTON, DC 20005			TRAN, THAO T	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/899,929	<b>Applicant(s)</b> MURATA ET AL.	
	<b>Examiner</b> Thao T. Tran	<b>Art Unit</b> 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 July 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 36,38,41,42 and 44-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 36,38,41,42 and 44-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/377,485.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This is in response to the Amendments received on July 12, 2004.
2. Claims 36, 38, 41-42, and 44-46 are currently pending in this application. Claims 45-46 have been newly added. Claims 1-35, 37, 39-40, and 43 have been canceled.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 36, 38, 41-42, 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagawa et al. (US Pat. 4,626,876).

Miyagawa teaches an ozonizing unit (ozone generator) comprising an electrode plate, the electrode plate including a dielectric substrate 1; first and second electrodes (ac or floating electrodes 2, 3) formed on one surface of the dielectric substrate; and a dc electrode 5 formed on the other surface of the dielectric substrate (see abstract; Fig.10; col. 7, ln. 12-40). Miyagawa further teaches a surface discharge on one surface of the dielectric (see Fig. 5). Miyagawa further teaches the electrodes, each having linear electrode elements 2, 2', 3, 3', and 5 (see Fig. 12); the linear elements of the first electrode are interposed between those of the second electrode.

Note: With respect to the limitation “so that a voltage is applied across the first and second electrodes to produce surface discharge on one surface of the dielectric substrate” in claims 36, 42, and 44, Miyagawa does teach a surface discharge produced on the surface of the dielectric substrate when a voltage is applied across the electrodes (see Figs. 1-3,5). Moreover, apparatus claims must be distinguished from the prior art in terms of structure rather than function. See MPEP 2114.

In regards to claim 36, Miyagawa, in another embodiment, teaches the electrodes 2 and 3 comprising linear electrode elements (see Fig1. 11-12; col. 8, ln. 10-25). Miyagawa further teaches that the use of electrode elements (electrodes with slim sections) would allow smaller section of ceramic to be made (as the dielectric) without breakage while maintaining the same electrical circuitry and functions (see col. 8, ln. 4-6, 26-28).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the embodiment as shown in Fig. 10 of Miyagawa, such that the electrodes 2 and 3 would comprise electrode elements, as shown in Figs. 11-12, for the purpose of enhancing the life of the electrodes and the dielectric, and improving the charging efficiency.

In regards to claims 38 and 45-46, Miyagawa teaches the first and second electrodes being covered by a dielectric (see Figs. 5-6, 8-10).

In regards to claim 41, Miyagawa teaches the dielectric layer having a circular surface (see col. 5, ln. 55-56). Although Miyagawa does not teach the hot and stray electrode elements being concentric circles or a pattern of spiral; it would have been obvious to one of ordinary skill in the art, at the time the invention was made, that the electrode elements would have been

Art Unit: 1711

modified to the configuration of concentric circles or a pattern of spiral. This is because the dielectric layer has a circular surface, and having the electrode elements with circular or spiral configuration would be more conforming to the dielectric shape, hence would provide a more uniform pattern of discharge areas on the circular surface. Moreover, Applicants have not disclosed any advantages of these particular configurations over the linear shape.

In regards to claim 42, Miyagawa further teaches the electrodes, each having linear electrode elements 2, 2', 3, 3', and 5 (see Figs. 7, 12, 16).

In regards to claim 44, the additional electrode could be interpreted as one of the floating electrodes or the back electrode in claim 36.

### ***Response to Arguments***

3. Applicant's arguments filed on October 24, 2003 have been fully considered but they are not persuasive.

Throughout the Remarks, Applicants allege that Miyagawa differs from the presently claimed invention because Miyagawa does not teach the two electrodes to be on one surface of a dielectric, and therefore would have different surface discharge. However, as shown in Figs. 2 & 10, electrodes 2 and 3 are formed on one surface of dielectric 1. Moreover, in Figs. 8-10, Miyagawa teaches electrodes 2 and 3 are further covered by dielectric 1a, or sandwiched between two polyimide dielectric layers (see col. 5, ln. 9-14; col. 6, ln.36-39), which is the same teaching as illustrated in Fig. 53 of the present application. Hence, the discharge in Miyagawa would be the same as that in the presently claimed invention. Moreover, Applicants are reminded

Art Unit: 1711

that apparatus claims must be distinguished from the prior art in terms of structure rather than function. See *MPEP 2114*.

***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 8:30 a.m. - 5:00 p.m..

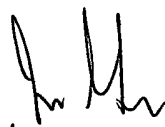
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1711

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tt

September 20, 2004

  
James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1700